The Physical Basis of Personality

LAWRENCE S. KUBIE

No problem in the entire field of psychiatry causes more perplexity or more bitterness than the effort to decide whether physiological forces or the subtle influences of events are responsible for the differences between personalities and for the difference between mental sickness and mental health. The problem rouses every deepest prejudice. As a result, even in the work of scientific investigators, one finds that a personal, emotional bias makes fanatics of the proponents of each position; and a calm and dispassionate attitude is rarely achieved. For this reason the lay public must bring to this subject all the skepticism it can muster. The present writer will therefore confine himself largely to an exposition of the difficulties of the problem, while trying at the same time to indicate the various paths along which research must proceed before any final answers to these problems can be expected.

One of the most conservative formulations of the question is that by Freud in his paper on *Heredity and the Etiology of the Neuroses.*[6] In this early paper Freud recognized the interplay of three causal agents in the production of neuroses: fundamental and indispensable conditions which are not specific for any one neurosis; concurrent causes which are also non-specific, and which, while frequent, are not indispensable; and finally specific causes. The first group includes the inherited organic constitution and predisposition; the second, physical exhaustion, illness, overwork, intoxication; and the third, the specific psycho-sexual events of the patient's life. The relative importance of the three groups, according to Freud, varies from one case to the next; but for our present purpose it is sufficient to point out his recognition of organic as well as psychological forces.

It is evident from this summary that the originator of the psychoanalytic method saw clearly the importance of obscure physical factors. He maintained, however, and fairly, that it is not the task of the psychoanalyst to investigate the physical aspects of the problem, but that he is justified in concentrating on the psychological forces, leaving to those who are trained in the physiological and chemical sciences the task of pursuing the organic aspects of the problem. Such a division of labor is fundamentally sound in science; and it is only unfortunate that the temperamental differences between these two professional groups have so often led them to bicker and to assume irrationally extreme positions.

Personal and temperamental differences only partially explain the ill-feeling which surrounds this problem. In all of medicine there is no question of causation which presents greater technical difficulties; and where technical obstacles block the path to exact knowledge, speculation always thrives and tempers become fiery. In other fields when one has discovered something that seems to be the cause of a disease, one can attempt with it to reproduce the disease in animals. This is recognized as the final test of one's theories. But to reproduce in animals the pictures of human psychoneurotic and psychotic disturbances is as yet hardly more than an ambitious dream.

The nearest approach to the realization of this dream is found in the work of the Russian physiologist, Pavlov.[13] This famous scientist trained dogs to make certain exact differentiations in their responses to sounds, shapes and other stimuli. While doing this, he found that if he carried this process too far and made demands upon the dogs which were beyond their powers, certain of the animals went into a peculiar state of tension. They became restless and irritable; they refused to eat and lost weight; and in place of compliant friendliness they became resistive to the experiments. Here seemed to be the long sought for demonstration that a neurosis can be produced by a series of events, without the intervention

of any obscure and mysterious organic agent. Such, at least, would be the conclusion if *all* the dogs subjected to this experiment developed similar states. But nature is rarely so simple; and as a matter of fact it was found that only certain animals could be forced into this experimentally induced neurosis, and that others maintained an equable temperament throughout the most trying procedures.

Here again, as with human beings, the variety of the responses to a constant situation confronts us squarely with the problem. Are the differences in sensitivity of the dogs due to different experiences and different training, or to different organic constitutional factors in their make-up? Was one puppy brought up on beatings and another on love? Or were they similarly brought up, but just "born different?" No investigation of this matter in dogs has as yet been undertaken. Therefore to answer is to guess; and to guess is merely to give voice to one's bias.

In contrast with Pavlov's work, DeJong[3] and his associates and followers have been able, by the administration of a certain drug called bulbocapnine, to reproduce in animals a condition which is closely comparable to the clinical appearance of "catatonia" in human beings. To what extent this resemblance can be trusted is a matter of technical debate and disagreement; but the least that one can say is that the work represents another stimulating and suggestive step toward the experimental reproduction of a human mental illness.

Further Experiments

THERE is another classical example of experimental production of psychological disturbances, the state of tension and anxiety which can be produced as a consequence of suggestions given to a human being under the influence of hypnosis. Although this is an old and repeatedly confirmed observation, certain recent experiments by a Russian investigator named Luria[11] are of particular interest. He used this means to demonstrate the activity of unconscious constellations of painful ideas which had been implanted in the subject of the experiment by direct suggestion during hypnosis. The disturbing power of these unconscious ideas could then be demonstrated by the experimenter by using a technique of investigating the patient's unconscious which is closely allied to the psychoanalytic method.

We see, therefore, two examples of the experimental production of a mental upset by psychological forces—one in dogs by Pavlov, and one in human beings by Luria—and one example of the disturbing influence of an organic agent in the work of DeJong. Obviously this settles nothing as yet, and one must turn to the more direct effort to gather material by the investigation of human patients.

In the effort to find an answer to such problems it is a sound scientific procedure to erect what is called a "working hypothesis;" that is to say, to set up for one's self a premise and then to proceed to test that premise by experience.

Working Hypotheses

FOR instance, the man whose training and bent is toward the minute investigation of psychological phenomena is entirely justified in saying, "I am going to proceed on the assumption that most of the differences in the personalities of my patients are due to things which have happened to them during their lives. By subtle investigation I am going to try to discover these events, and at least to ameliorate their effects."

If he pursues this hypothesis with vigor and an open mind, he will undoubtedly discover many important things. But occasionally he may also run up against differences which he cannot account for on the basis of any observable differences of experience, and each time this happens he will be forced to qualify his original premise to conform to this actual finding.

On the other hand it is equally sound scientific policy for the man whose bent is toward organic research to set up the opposite working hypothesis; namely, that the most fundamental causes for differences in personalities are, not differences in life experiences, but profound differences in the physiological constitutions of human beings. Having made this assumption, he too must test it; and the remainder of this article will be concerned primarily with a discussion of the difficulties which beset the path of the investigators in this field.

Strangely enough, the first difficulty which the investigator along organic lines must overcome is not one that has to do with the organic aspect of his problem at all, but with a purely psychological dilemma. Let us assume that the student is investigating the possible relationship of the amount of sugar circulating in the blood stream to different types of personalities or to different types of disease. He may attack this problem in one of two ways. Either he may measure blood sugar in a long series of people, taking them as they come, sick or well, sad or gay, frightened or aggressive, paying no heed to anything except the blood sugar itself. Then let us say that he groups his individuals according to certain levels of blood sugar. At this point, he has to gather together the

hundreds of individuals studied and proceed to make some kind of psychological study of them in order to determine whether or not those whose blood sugars are at approximately the same level also have psychological traits in common. Or he may proceed in the opposite direction, first selecting a group which has already been psychologically studied and found to have some similarities which make it justifiable to lump its members together as a personality type. Then he can try to find out whether the level of blood sugar in this group is approximately the same, or whether it scatters just as widely as blood sugar levels scatter in the general population.

But no matter which way he goes at it, the object of his physiological investigation must in the end have been studied psychologically with equal care. It is just here that, in countless pieces of work, we find meticulous care in the organic half of the task, and inexcusable carelessness in the psychological half. No matter how precise is the chemical technique employed, if the psychological investigations are superficial the resulting work is literally of no value.

Let us, however, go a step further and assume that the organic investigator realizes the necessity for equally exact investigation of the material from the psychological side. Let us assume that he is even open-minded enough to call upon his psychological or psychoanalytical confreres to choose his clinical material or his personality types for him. Even after all this care, we must not forget that clinical groupings are tentative and depend in the end upon the minuteness with which the individual members of the groups have been studied.

Trying to Classify Types

When it comes to a classification of personality types, we are facing even graver problems. We can trace in the history of psychiatry at least five different efforts to classify personalities. There is first the old classical effort, based on theories of the special significance of special organs: the liverish or bilious type, the sanguine type, and so on; second, the efforts to define character types on the basis of the types of full-blown insanities, such as manic-depressive personalities, or schizoid personalities; third, efforts to define personality types on the basis of types of neuroses, as hysterical characters, obsessional characters, mixed characters, and so on; fourth, the effort to single out character types according to which waystation of instinctual development has been specially emphasized in any individual's life, such as the so-called urethral character, the anal character, the oral character; and fifth, the Jungian effort to describe character types on the basis of the end-product of the forces involved, as introvert and extravert types, feeling and thinking types and similar combinations between various pairs of opposite traits.

Throughout all of these many efforts one finds the obvious difference between the attempt to characterize people on the basis of what they finally look like at the end of their development (as in the Jungian effort and the clinical characterizations) as opposed to the effort at characterization on the basis of the psychodynamics of their origins (as in the Freudian attempt.) It is worth while noting that the Freudian classification of types has been very cautiously advanced, and has never been set forth with the assurance or the belief in its permanence which characterizes the Jungian description. It is obvious, however, that with so much uncertainty about psychological types and the grouping of personalities, the explorer in the organic field must also pursue his way with great caution if he is not to find himself with a fine array of organic data and no well conceived and clear-cut psychological entities with which to correlate them.

Safeguarding Psychological Data

In view of the present uncertain status of any efforts at classifying personality types, it is not too much to ask, in fact it is essential to insist, that each individual who is to be used for organic exploration should be examined with the most minute and precise methods of psychological investigation which are now at our command. This essentially means that each indiviudal studied should be subjected to psychoanalysis.* It is primarily by the organic and physiological study of psychoanalytical cases that our progress in the correlating of these two forces, the organic and the psychological, will be worked out.

But if we take a further step and assume that our research worker has lived up to the highest standards of scientific accuracy in both organic and psychological procedures, we must still be on the lookout for a fallacy which frequently invalidates much of the speculations built up upon the discovery of certain statistical correlations. For instance, if one hundred human beings with a certain type of neurosis or mental illness all tend to have a certain type of physiological response, it is very frequently assumed that this response has some causal relationship to the mental illness. This would be equivalent to saying that if

* This does not mean a complete psychoanalysis, which may demand a long period of study, but rather a comparatively brief diagnostic study along psychoanalytic lines, which might require three or four months.

one hundred human beings with red hair have bad tempers, it is the red hair which has caused the bad tempers. Obviously the two correlated elements may be based on some common factor, and yet have no direct causal relationship one to the other. In order to prove the cause and effect relationship the same rigid criteria must be applied in the field of psychiatry as in the rest of medicine; one must be able, in work with human beings or animals, either to reproduce the mental condition by experimentally inducing the physiological change, or else to reproduce the physiological change by experimentally inducing the mental condition.

Organic Factors

With these warnings in mind, let us review the aspects of the human body economy which have already been subjected to investigation, or in which investigations are likely to develop, with a view to uncovering physical factors which have some bearing on the development of human personality.

Our attention is drawn first to the work of W. B. Cannon, professor of physiology of Harvard Medical School. In a book called *The Wisdom of the Body*[1] Dr. Cannon has pointed out that within the body all cells are bathed in a fluid matrix, a sea-life, which was called by an old French physiologist the "internal environment" of life. In that sense, all life is really lived in water, but in those of us who are land animals, the fluid matrix is a limited amount of fluid which circulates constantly, and of which the essential constancy must be assured. To this end, hunger and thirst operate to bring fresh supplies of consumable elements. To this end also, elaborate and intricate mechanisms are constantly at work to assure the approximate constancy of the water, salt, sugar, protein, fat, calcium, and certain basic ions, the gaseous exchange of oxygen and carbon dioxide, the balance between acids and bases, the temperature, the viscosity and so on. The total concentrations of the active, independent molecules dissolved in these fluids must also be kept at a certain level. The body is forever conducting an active exchange with the external world, always trying to return from slight oscillations to these central constants, much as a pendulum seeks its point of equilibrium.

Obviously, then, the first and most fundamental problem of organic constitution which one would have to settle is whether these internal constants are uniform for all human beings, or whether one "type" of personality has fundamental constants which are peculiar to itself. Strange to say, this apparently simple fact is not known as yet, because the methods by which these constants are measured are, in many cases, still too crude to reveal minute differences which may be of great significance.

Furthermore, it may be necessary to seek a correlation between some of these constants and the slight temperature fluctuations which we take for granted in the daily life of every individual. We know that our temperatures vary at least a degree, and sometimes more, from time to time during the day, and that the temperatures of the different parts of the body are not always the same and are not the same in all individuals. Here, then, lies a second avenue of investigation, which will have to be pursued in correlation with careful observation of personality data. But every step of the way depends upon perfecting methods of measuring minute differences with great accuracy; and these are often slow in coming.

There are still other body constants which must be investigated. For instance, in recent years it has become possible to ascertain in human beings the exact amount of blood which the heart puts out with each beat.[7] Here, then, one is armed with a method for the study of constitutional differences between individuals with respect to their cardio-vascular systems. Since there has long been a feeling on the part of acute clinicians that there are marked differences in the cardio-vascular systems of individuals of different temperaments, such an inquiry is of great importance. The search for a cardio-vascular constitutional factor is not confined to the heart. Efforts are being made to find in the reactions of the minute blood vessels of the skin and other organs a lead into important differences in organic constitution. The so-called "capillary bed," that fine and minute lace-work of interweaving and interconnecting terminal vessels of microscopic size, has been investigated for its sensitivity to various stimulants, its actual anatomical configuration, and response to emotional influences.[10] [2]

No investigation of the cardio-vascular constitutional factors can go very far without running into the problem of the endocrine glands.[8] These glands produce substances which have a marked influence on the activity of the heart and blood vessels, as well as on skin pigmentation, hair growth and distribution, fat distribution, the growth and development of the bony skeleton, the utilization of different kinds of food stuffs and the like. To seek physiological correlates for personality or disease types along these lines, one would also investigate the food consumption and food utilization of the body, the natural and spontaneous appetite, the partition of food in various ways by the body, the waste disposal of the body, the influence of foods on the tides of sugar, of protein, and

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Psychological By-Products of Health Education

The demands made upon mothers in the interests of child health must take into account the psychological as well as the purely medical aspects of the whole problem.

RUTH BRICKNER

THE stupendous success of the child health movement needs no further proof than that it has already reached a point where it can stop to examine into its psychological by-products. When every effort must be forcefully directed toward the sheer saving of lives, the psychological aspects of those efforts are obviously of secondary importance. But now that the drop in the death and sickness rates of infants and children, beginning in the last half century, is sufficiently established throughout the civilized world, we need somewhat different methods from the wholesale education urgency made imperative.

Let us not, however, forget how real that urgency once was. In the first chapter of his book on *Healthy Childhood**, Harold C. Stuart summarizes the results of the interest in child health beginning in the late nineteenth century by some dramatic contrasts in statistics. He refers, for instance, to a statement of the medical historian, F. H. Garrison, according to whom the mortality rate among new admissions in the Dublin Foundling Hospital between 1775 and 1796, was 99.6 per cent! Even in 1880 in New York City, with interpretable statistics available, it was found that the infant death rate was 228 in every 1000 live births; yet now, after only fifty years, it has been reduced to well below 60. And apart from statistics, we have all heard from our older relatives and friends of the tragedies in the wake of "summer complaint," "membranous croup" or other once too familiar illnesses of infancy. Dr. Stuart also reminds us of the more recent spectacular results of a campaign of immunization against diphtheria by toxin anti-toxin, begun in New York City in 1929 under the Commissioner of Health. "During the preceding year there had been 10,776 cases of diphtheria reported and 643 deaths from this disease. During the year of 1932, after three years of activity on the part of the Commissioner, the number of cases had fallen to 3,585 and the deaths to 212."

* *Healthy Childhood.* By Harold C. Stuart. Appleton-Century Co., N. Y.

Every one of these gains has been the direct result of the advance in medical science; but widespread acceptance and application of increasing knowledge has been very much hastened by campaigns for health education. And when today we find ourselves questioning some of the psychological by-products of this education, we must not forget that it is the very success of the movement which now makes the opportunity—and the necessity—of going into it more subtly. We may well begin by making a distinction between two kinds of health education for parents which is particularly important because it is not always clear in the minds either of the health educators, or of the parents themselves. On the one hand, parents must be instructed in the essential medical requirements for child health; these include immunization, the importance of periodic medical examinations, information about essential nutritional requirements, the child's need for sunlight, cod liver oil, and so on. On the other hand, however, parents must be taught how to guide their children in healthy habit formation and how to manage such routines as eating, elimination, sleep and play. All of these are part of health education. But when we line them up in this way, we see that the first grouping includes medical facts that the parent must simply accept on the basis of the best medical authority available, together with equally authoritative procedures most of which, like immunization, are performed by experts outside the home, while the second grouping includes procedures which the mother must carry out *herself*.

The first kind of needs can best be met by fulfilling "the letter of the law" implicitly. But when the mother tries to fulfill "the letter of the law" in management of routines with the same unquestioning spirit, she finds herself involved not only with facts but with personalities and emotions, both her own and her child's. The new mother, profoundly inexperienced in both matters, looks to the physician as scrupulously for one law as for the other. She will, for instance, frequently attempt to apply rules with

regard to the management of a two-year-old's meals with the same exact literal care which she followed in formula making during his first months.

Taking Account of Individual Needs

ANOTHER distinction to be remembered is that, while such things as immunization require only two or three visits, the regulation of the child's food to meet his nutritional needs brings the mother into frequent contact with health stations and with pediatricians. Continuity establishes a further opportunity for education, but it demands a different kind. Posters, demonstrations, pageants, exhibitions and lectures are aimed rather at creating a point of view about child care than at supplying specific and detailed guidance. Audiences of mothers who attend such demonstrations do not return home, empty out their iceboxes and begin a new feeding regime. They do well if they go out to market the next day and buy a green vegetable instead of spending all their money on spaghetti. One finds, however, that the propaganda tone necessary and proper to this wholesale education is on occasion carried over into individual conferences with mothers, who take unto themselves personally the full impact of the general rule.

Many mothers have become more or less bewildered about the management of their children's health routines because they have brought all their faculties and facilities to bear on "following the rules." The more they have to give to child care—in time, intelligence and devotion—the more they have mistrusted their own discrimination and observation. A conscientious mother is deeply aware of her indebtedness to science in everything pertaining to nutrition. She has read much about the importance of calories, vitamins and optimum nutritional requirements. Her little child may have only a limited interest in food; but he has been pronounced "normal" by the physician, who therefore advises that food be presented to him and then removed without comment after twenty minutes. To the mother's despair, the child shows no resentment at this deprivation. He not only is indifferent to food but also begins to lose weight. There follows coercion, sometimes the use of physical force, pleading, and distractions of all sorts, all of which only exaggerate the loss of appetite.

If the doctor himself is anxious about a child's nutrition and issues an earnest order that "food *must* be gotten into that boy," he is still more likely to defeat his own purpose. To eat because one must is for an adult a very onerous task; for a child, who has only the vaguest idea of the ultimate gain, it is totally distasteful. In one such case each meal was a struggle which left the six-year-old strained and resistive and the mother exhausted. The child was somewhat undernourished and inclined to constipation. The pediatrician had outlined the menus; whereas supper was moderately successful, luncheon was poor and breakfast practically non-existent. The mother was very much worried because she could not carry out the pediatrician's orders. With the cooperation of the physician a plan was worked out which presented to the child only foods he liked. These were very limited in number but could be arranged to form balanced meals. He was allowed to follow his own inclination about breakfast and for several weeks took only orange juice. It was arranged that he have milk in school at mid morning. His luncheon appetite improved. Portions grew larger. After a year he has gained six pounds and his constipation is controlled. His food interests are still limited in number but he can now be encouraged to try different things.

Over-Routinized Child Care

MUCH propaganda directed toward one phase of health training, such as nutrition and eating habits, either directly or indirectly implies certain general attitudes toward child care. Posters depicting the importance of regularity in feeding, for instance, are made vehicles to stress the importance of regularity in *all* routines. Cleanliness, urged in the preparation of foods, implies the importance of equally unfailing cleanliness in everything that concerns the child. As our knowledge advances some of these accepted procedures may very well be questioned. But it is sometimes difficult to get a hearing because of a fear that mothers will become generally lax if any qualifications of a principle are permitted.

Instruction about bladder and bowel training, for instance, sometimes urges the mother to begin holding the infant over a vessel at exactly the same time each day as soon as she takes him home and cares for him herself. The wisdom of this procedure has, however, come into question. Children subjected to this routine very early do not seem to arrive at a permanent state of control any sooner than those whose training is begun when the nervous organization of the eliminative organs is better integrated, say at nine months to a year. The strain of the demands made on them in a function which they cannot yet well control is perhaps only one of the psychological disadvantages of such early training. The advantage to the child of control so early imposed is particularly questioned by clinical child psychologists, because of the fact that it it usually in the hands of a mother or nurse, for whom it becomes a matter of anxiety or deep personal pride.

is so important in personality development, parents should put more direct emphasis on questions of health. In fact, the less obvious the attention to health, provided the child training of the home is fairly good, the better health habits are likely to be developed. When a child's personality development is interfered with by poor health we often find that too much attention has been concentrated upon him at every point. Aid to the child should certainly include less talk about health in the home and less fuss about his physical condition. One of the big mistakes that schools have made in their treatment of malnutrition has been overemphasis—bringing parents and children together to urge the importance of building up the weight of the child, making charts to remind him daily that he is a problem of pseudo-invalidism, and making the parents feel guilty that their child is not up to "average" weight. Since it is certain that very many cases of malnutrition are primarily child training problems, the treatment should, rather, look to the general child training situation in the home with emphasis on fostering the independence of the child and on increasing the encouragement given him in growing up. Of course in such cases it is not enough merely to tell parents that they must curb their over-attention to the child and his health; the parents themselves must be helped to discover other interests and to develop for themselves the emotional maturity which will allow them to work out a balance between their own affection for, and attention to the child, and his need of increasing independence.

We come back again to the realization that good child training is in effect a personality trait in the parent, just as progressive education is a personality trait in a teacher. Good health is one of the results of influences making for good personality development in both child and parent. Though neither good health habits nor good personality can be imposed upon an individual from without, we can see that environmental influences, as far as we can determine them, do aid toward both.

When Home and School Cooperate

The child's chances for normal development are enhanced when parents and teachers work toward that goal together.

ANETTE M. PHELAN

THERE may be some phases of home life that are untouched by the influences of the school; there are some educational tools which children may acquire through the efforts of the school, with little or no cooperation from the home. The health of the child and his health education are, however, affected at every turn by his experiences in both the home and the school.

The basis of a practical and beneficial program of home and school cooperation must be built on an intelligent use of the known facts of child growth and development. How the child grows, what important changes take place, when these changes occur, these questions and others like them have been discussed in many helpful books.*

The present discussion is concerned chiefly with the cooperative approach of the home and school to child health problems arising from home and school situations and conditions which unfavorably influence the normal growth and development of children. The limits of space demand that the consideration of home and school factors influencing the health of the child, and the review of attempts at home and school cooperation be illustrative rather than comprehensive.

Sometimes the situation in the classroom of an overzealous teacher involves physical as well as emotional strain. A typical situation is that in a second grade classroom in which the teacher carried on an ambitious reading program without adequate consideration of the individual differences in children—differences in richness of reading background, in reading readiness, in reading disabilities and in visual acuity or eye defects that favored eyestrain.

Sometimes it is a physical condition in the school

* *Home Guidance for Young Children.* By Grace Langdon. The John Day Co., 1931. 405 pp. *Introduction to Child Study.* By Ruth Strang. Macmillan, 1930. 550 pp. *Child Adjustment.* By Annie D. Inskeep. Appleton, 1930. 427 pp. *Growth and Development of the Young Child.* By W. Rand, M. Sweeney and L. Vincent. Saunders, 1930. 374 pp.

that not only hinders the building of healthful practices, but actually interferes with the normal progress of the child's development. Such conditions were seen recently in a schoolroom in which 150 children were given the Otis Self-Administering Intelligence Test. Three desks in the entire schoolroom received five foot candles of daylight, as measured by the Weston Illuminometer. The rest had only as much light as four foot candles or less; of these the majority had but one or two foot candles. Yet to be adequately lighted for such critical reading as that required by the Otis Test it has been found that the page should have not less than ten foot candles of light as measured by the Illuminometer. The development of the visual powers of children can hardly be expected to proceed normally if the eyes are repeatedly subjected to strain. Examination of the vision of children shows an amount and frequency of defect which merits more serious attention.

Practical Ways and Means

HOME as well as school conditions may interfere with the normal development of the child. The home may fail to provide conditions essential for restful sleep of children. The provisions for home study may be such that the child has a headache or watery eyes when the study hour is over. The family diet may be selected to suit the taste of adult members of the family rather than the needs of the growing child. Parental domination may deprive the child of many opportunities to succeed in simple undertakings, or may interfere in his association with other children of his own age. In situations such as these, teachers and parents could find the explanation of some of the troublesome health problems of children, as well as suggestions for safeguarding children from undesirable experiences.

One group of parents and teachers found a basis for a cooperative attack on the problem of child health in their common interest in the normal growth and development of the children. In this community in Guilford County, North Carolina, the school took the initial step. The teachers attempted to meet their responsibilities for child health by providing opportunities for healthful living throughout the school day. They assembled and considered facts of child growth and development that had special significance to school life. They analyzed school situations, environment and procedures which might constitute influencing factors in the development of the child. Included in the analysis were such factors as schoolroom lighting, heating and ventilation; facilities for drinking water, hand washing, and use of the toilet; the janitor service and sanitation of the school building; space and equipment for play and provision for its supervision; supplementary feeding and the noonday lunch; the organization of the school day; the techniques of instruction; and the guidance provided for the child's health education.

The parents of the school children became interested in the efforts of the teachers and undertook a similar study of the home situations and conditions. The attempt of the school to help the child begin the day right found a parallel in the efforts of the home to give the child a good start each morning. The parents scrutinized such home influences as: the manner of waking the child in the morning; the length of time allowed for dressing; the kind of guidance provided by the home for good toilet habits; the child's preparation for breakfast, the type of breakfast set before him, and the guidance given in developing good breakfast habits; supervision of children in order to keep at home any child whose school attendance might not be good for himself or for his classmates; and the guidance of children in desirable habits of safety. In the home scrutiny were also included such factors as parent-child relationship and the guidance of children in self-direction, friendly social contacts, self-confidence, and respect for the personalities of other members of the family.

Out of this cooperative attack on the problem of child health, came an understanding of child needs by both parent and teacher that could be achieved only with difficulty through the ordinary academic method of class discussion. Out of it, also, came a fine appreciation by both teacher and parent for the work of the other.

The Windward School, a cooperative venture in education in White Plains, New York, offers another example of what can be accomplished when parents and teachers undertake together a study of the child's needs and attempt a guidance of that child through successive stages of his development. Not the least important outcome of such a venture is the contribution made by the experience to the point of view of both teacher and parent.

A Common Goal

THE rapid development of Parent-Teacher Associations everywhere, the vigor and enthusiasm with which the White House Conference on Child Health and Protection attacked the joint problems of the school and home, the wealth of literature dealing with school and home problems—educational, social, and physical—indicate a widespread recognition of the interdependence of school and home.

The basis of cooperation between the school and the home is the need of the child for a normal, healthy development and for healthful living habits—physical, mental, emotional, and social. The necessity for cooperation lies in the fact that the achievements of either the home or the school are limited by the influence of the other. Successful cooperation between school and home means the recognition by both that the fundamental objective is to safeguard not its own "prerogatives," but the development of the child.

Adolescent Adjustments

How a boy or girl feels about himself during adolescence is just as important as are the actual physical changes through which he is passing.

DOUGLAS A. THOM

PROBLEMS are always with us. Let us therefore not get unduly concerned about them whether they occur during the preschool years, in adolescence, or later on. They are a natural consequence of living, and only the dull, uninteresting and self-centered individuals seek to avoid those responsibilities of life in which problems are inevitable.

The challenge in any problem, regardless of the age at which it occurs, lies in facing the situation frankly and working out a method of attack which is most likely to result in the end desired and the consequent feeling of satisfaction. We all realize that eagerness to attain the desired solution in a given problem often tempts us to ignore this challenge. When little Tommy creates a domestic problem by setting up a howl every time he is offered his cup of milk, his mother may be tempted, in her desire for peace and quiet, to cease giving him milk. But by so doing she would be refusing to face frankly a situation involving both her son's nutritional needs and his early habit training and, in addition, she would be depriving both herself and him of the feeling of satisfaction that comes from having met rather than evaded a difficulty. The challenge for the parent is thus always a double challenge: first, to meet the problem wisely as a parent, and second, to help the child meet it. Whether or not the desired end is immediately attained—whether the first trial results in success or failure, is far less important than that the individual learns, through meeting little problems, how later to meet the bigger problems of life.

Like every phase of life from infancy to senility, adolescence has its own problems; but that does not mean that adolescence need necessarily be a turbulent sea of emotionalism over which every individual must sail and on which many are wrecked before they reach the shore of maturity. The problems of adjustment during the period of adolescence have two special features. The individual goes through a period of important physical changes including general body growth and the maturing of the reproductive system with the accompanying changes in physique; and he is gradually forced by society to assume increasing responsibility for his own decisions and his own actions. Either of these experiences may, and often does, present problems of its own. The very process of physical growth, while almost unnoticed by many boys and girls, may present situations of real difficulty to some individuals. This may be due in part to certain inherent tendencies or to the general habit trend of the child, or perhaps, to an even greater extent, to the way in which these situations are regarded and managed by the parents.

Let us consider for the moment one simple phenomenon of growth. As a rule it can be said that the rate of physical growth proceeds so gradually that most children develop in an orderly sort of way without undue consciousness of the process. Yet there are boys and girls whose social and emotional adjustment to body growth presents real problems. The boy who suddenly and unexpectedly finds that his arms and legs are literally pushing themselves out of his coat and trousers, while the rest of his bony structure seems to remain the same size, often becomes painfully aware of his accelerated growth. Someone will call his attention to the fact that he has reached a gawky, unattractive stage, tease him about his clothes, ridicule his clumsiness, and in a general way

encourage either a feeling of marked embarrassment and self-consciousness or a resentful, bitter attitude toward his tormentors. These are the youngsters, as one mother put it, "who are unable to go through double doors without banging themselves against both sides and who insist, if there is a hole about, on falling into it."

Temporary Misfits

Sometimes this growth may be so marked as to make the boy or girl more or less of a misfit with his contemporaries; for his mental faculties may be temporarily slowed down as compared with his rapid physical growth. It is not uncommon to see a boy with a chronological age of fourteen, a physical development of sixteen and a mental age of thirteen. And one can readily appreciate that this large, overgrown boy finds it difficult to make a place for himself either in school or in recreational activities. He is too big to play with the thirteen- and fourteen-year-old boys; he is not sufficiently mature in his muscular development and coordination, to say nothing of intellectual development, to compete with the older group; and, unless the situation is carefully managed and a plan worked out whereby the lad can find adequate outlets through the things he can do best while he is passing through this phase, he may easily build up a more or less permanent feeling of inadequacy about himself. Such a boy always finds it more difficult to do things requiring coordination of the finer muscles. His attention should therefore be turned to football, swimming and track activities, and he should not be forced to take music lessons, go to dancing school, or work with fine tools at this particular time. This period of awkwardness may be but a matter of a few months, or a couple of years at the most; yet it is the source of many unhappy attitudes.

For some children growth is not so much a cause of awkwardness as of a kind of inertia which adults are inclined to call laziness. Such a youngster is complainingly described as "a big hulk of a boy" or "a strapping girl" who seems to have no pep or ambition and is forever lounging about. "Lounging" is one of those terms which parents are always inclined to use in tones of emphatic disapproval from an aesthetic and postural as well as moral point of view. In their haste to meet this problem, they sometimes fail to see the real problem—that the child is using up all his physical energy in growing and has little left for any strenuous activity. If there is a danger of his becoming slouchy of posture and indolent of habit, the remedy must be sought not in sending such an adolescent to a farm to hoe cornfields, or prescribing strenuous sports or arduous household duties, but in directing his interests toward activities that will provide some occupation and satisfaction without requiring undue expenditure of energy, and in encouraging pride in healthy as well as comely appearance.

Parents must recognize that these phases of development are experienced by other children as well as by their own, and that they are usually of short duration. They need to remember this for their own comfort in moments of impatience, as well as for the comfort of the boy or girl who feels that no one in the whole wide world has ever been quite so miserable. The changes may be physical, but the adolescent's concern with them tends to be emotional. He suffers more over *feeling* awkward and *feeling* that other people consider him gawky or lazy than over actually bumping into everything or having little energy. In the end, the physical changes are accomplished of themselves and there is nothing to be done about it, but his feelings about himself may have become fixed and may continue to handicap him for years.

In making his social adjustments the adolescent cannot look forward to nature's taking her course. The matter of assuming increasing responsibility for one's conduct and becoming independent of one's parents does not happen by itself. In addition to having both eager and reluctant feelings about being considered grown-up, the adolescent must do something to achieve the grown-up state. And parents, too, must assist in this; for if it is the problem of the adolescent to become independent of his parents, it is the problem of the parents gradually to relinquish their control over the adolescent. It is for each to face the situation frankly and for the parent to guide the child in such a way that he learns to choose wisely, decide courageously and direct his course with sure and growing independence, rather than with heedless and rebellious defiance.

What are some of the new choices, decisions and responsibilities constituting the adolescent's social adjustments? They are innumerable, beginning with all the minor vexations of clothes, cosmetics and evening hours and progressing to the bigger issues of the selection of school and college, the choice of friends, the proprieties of boy and girl relationships, the decision regarding a vocation, the length of an engagement and the partner, time and place for marriage. The difficult situations produced by these issues are complicated by the fact that they are faced by various types of people: there are boys and girls who suddenly want to decide everything for themselves, usually contrary to the best judgment of their parents;

there are boys and girls who have no independent views on any of these matters but lean entirely on their parents for a decision in every question, beginning with the dress to be worn in the morning and ending with the time to retire at night; there are parents who eagerly renounce all their responsibility and fail to give guidance and counsel even at times when these are needed; and there are parents whose own lives are so lacking in satisfactions and interests that they cannot bear to give up one iota of the satisfaction they derive from managing the lives of their children.

Among the men and women we meet in daily life, there are a sufficient number of over-dependent, clinging individuals and overbearing, domineering and revolutionary individuals to bear witness to the fact that in some combinations the adolescent and his parents never do work out a satisfactory solution to this problem of social adjustment. It is a problem that is, moreover, further complicated by any domestic casualty such as chronic invalidism, death, divorce, separation, economic dependence, a-social or abnormal conduct—any of which may tend to strengthen the bond between a sympathetic and understanding adolescent and his parent, making the former's ultimate independence more difficult or, on the contrary, encouraging the latter's complete dependence.

Feeling Versus Fact

It is important to keep in mind that during adolescence the feeling tone toward life is usually very intense. Some of this intensity is due to the increased activity of various glands which pour their secretion into the blood stream and often have a very exhilarating effect on the whole nervous system. One sees these youngsters undergoing a kind of auto-intoxication, and their parents speak of them as "bubbling over," and "in love with love." They must react violently to everything and their usual vocabulary barely contains enough superlatives with which to express the degree of perfection, funniness, prettiness, hideousness, sadness, or even boredom with which they are obliged to view the daily phenomena of life.

But the more intense feeling tone is to be attributed to yet another factor, namely, the adolescent's lack of experience. He is facing so many situations for the very first time in his life and the newness of the situations he meets is naturally exciting. The hopes, expectations, fears, disappointments, enthusiasms and disillusionments which the adult necessarily tempers with the recollection of previous similar experiences, are unprecedented in the life of the adolescent. He still looks forward with a maximum degree of expectation to a holiday beach party, and the bitterness of his disappointment is equally intense when a rainy day spoils his plans. He has hopes for making tremendous changes in his small domestic circle as well as in the larger scheme of things, and suffers from an almost explosive resentment or a despairing sense of frustration when he finds the adult world quite unmoved by his precious theories. He still hopes to find perfection in a friend and believes in an ideal girl (or boy) with whom an ideal love relationship may be possible, and at any slight indication of clay in the feet of his idols, he is quite inconsolable. As the years go on he may again and again have similar expectations and similar disappointments, but remembering his previous experiences he will protect himself against building up his hopes too high, and he will be able to accept his disillusionments with more philosophy.

Learning by Experience

The adolescent's lack of experience also has a bearing on his efforts to manage his own affairs. He has had too little knowledge of human nature to know whom to trust; he cannot yet see the potentialities — for good or evil — in the situations with which he is confronted; and if he vacillates back and forth over every decision, it is no wonder.

Even without further discussion, the foregoing should serve to show something of the number and variety of factors involved in any of the problems of adjustment in adolescence. It is of little avail to label them "problems of adolescence" and try to handle or dismiss them all with the same methods. Each adolescent and each parent brings his own combination of personality traits to the situation; no dogmatic rules can therefore be laid down as to the degree of freedom to be allowed or restriction to be enforced on fourteen-year-old girls or fifteen-year-old boys. Each situation must be met as an individual problem, and the more frankly the various factors are recognized, the more satisfactory will be the ultimate solution. Perhaps Jane should be encouraged to spend more time with young people away from home, since she tends to walk too closely in the footsteps of her mother or her aunt and is not developing any personality of her own; perhaps Richard needs to be encouraged away from his group whose domination he is inclined to accept as a substitute for parental authority instead of doing some thinking for himself. And perhaps the parents need to direct their attention to themselves; for the problems may be due to their omniscent and omnipotent attitude in directing the lives of their offspring rather than to anything in the nature of adolescence.

Parents' Questions and Discussion

These pages, based on the foregoing articles, are presented for the use of individuals or of groups having this topic on their regular programs. Questions and discussion are taken from study group records.

STUDY GROUP DEPARTMENT

CÉCILE PILPEL, Director — JOSETTE FRANK, Editor

A mother fears that the long quarantine for whooping cough will make her already shy five-year-old more timid in his social contacts.

Whooping cough isolation is especially hard for young children, who find it difficult to reconcile being "sick" with being allowed outdoors. One may contrive to offset the idea of social ostracism by inviting friendly gestures from other children. They might be asked to send him messages, to wave to him in passing his window, perhaps to talk with him on the telephone. Sometimes it is possible to juggle his routine a bit so that he goes outdoors at times when the other children are not so likely to be about, or goes to places where they are not likely to go. Perhaps one or two children, already immune, could be invited to visit occasionally. One can also use this occasion to give the child some sense of his own social obligations, his responsibility to protect the health of others. He may find some satisfaction in the very fact that it lies within his power to do the other children this service.

Sweets, such as candy and confections, are forbidden to a six-year-old girl for important health reasons. How can this be managed?

Most children have a strong desire for sweets and one cannot expect too much from a six-year-old in self-control and self-denial. In the first place the parents can make every effort to minimize the temptations to which she is subjected. She should not be "tried" by having candy left about within her reach at home, and the family desserts may be adapted somewhat to her special needs. However, there are bound to be opportunities for candy-eating which the home cannot control. We must depend, therefore, not so much on prohibitions and admonitions as on engaging the child's cooperation, and building up her sense of responsibility for her own actions. If she accepts this abstinence as her special responsibility, she will, perhaps, derive from her success in this some compensation for pleasures denied. It has been found that the physiological craving for sweets decreases through abstaining from them. But psychologists also see the need for sweets as bound up with the need for affection. While denied sweets, this little girl must especially have the reassurance of unstinted, expressed affection. At the same time the parents' casual acceptance of this necessary denial will be more helpful than a too sympathetic attitude.

The necessity of wearing rubbers always precipitates a struggle with a nine-year-old boy.

Most children, if they have nothing serious to react against, are reasonable. If the day is really rainy, they can be brought to appreciate the wisdom of wearing rubbers, no matter how hated, though they will resist if they are asked to wear them "because it *might* rain." In this and similar situations the reaction of the child may be due to a parental over-concern with the child's health. Very often, too, a specific refusal of this nature is really a general protest against too much supervision and interference with what, to the child, are little matters. It might be helpful to give this boy some choice in the kind of footwear to be provided for stormy weather, and also to see to it that such articles of clothing are amply large, so that the putting on and off involves no great effort or time lost from whatever he is to do next.

Being small for his age, a boy of ten is handicapped in physical competitions with his group. Can anything be done to help this situation?

Sometimes schools and organized play groups are able to meet situations of this kind by

arranging to group an undersized child with children younger than himself on the playground. This is, of course, a makeshift, but it sometimes works out well because it allows him to develop these skills relieved of the constant fear of defeat. Some psychologists tell us that children so handicapped will compensate by making a greater effort to excel; they point to many historic examples of men of small stature who have fought their way to successes in various fields. But others, unwilling to trust to this compensatory mechanism, tell us that children need to be protected from this battle against odds. Where the parents themselves feel concerned about their boy's stature, he will sense this and it will only add to the burden of his own feeling of inferiority. They can help him by putting the emphasis of their approval on achievements requiring skills other than physical. They can also help him "sell himself" to his classmates on these other bases. But at the same time a physican should be consulted as to whether the matter of his size can be regarded as a medical problem.

A boy of eleven never wants to go outdoors after school. Are the two hours of "fresh air" worth the daily struggle of forcing him to go out?

The positive value of fresh air as against the nervous depletion of parental nagging is hard to estimate. One might guess, however, that the physical health values will be more than vitiated by the mental health factors. Is there something interesting for him to do outdoors? What does he do with those hours at home? Perhaps he might be offered some outdoor program which would stimulate his interest. There may be simply an inertia due to the inaccessibility of play space and opportunity. In that case an afternoon play group may be available (or one might be organized) which would overcome this obstacle. Possibly there is some question of social difficulty. If this boy does not get on well with the other boys of the neighborhood it is important to know why. Perhaps it is this angle which needs attention, through help in finding more satisfying relationships either in the neighborhood or with other accessible companions whose interests may be more nearly like his own. If he dislikes the rough outdoor play of the street or park, he might find some congenial companions with whom to visit places of interest about the city. (A number of helpful guidebooks are available.) In any case it is necessary to give the "going out" an objective; to go willingly a boy of this age must go out *to* something he enjoys.

A father, disappointed that his twelve-year-old son is not more athletic, wonders whether it would be helpful to send him to a camp which emphasizes sports.

Parental hopes and ambitions notwithstanding, we have to accept the limitations and inclinations of children. If this boy prefers sedentary interests to physical exercise or combat on the athletic field he will have to be allowed to follow his own bent. But it is important to assure oneself that his avoidance of athletics represents a real preference and is not just a withdrawal due to feelings of inferiority and discouragement in that field. If one could be assured of a most intelligent and understanding physical director, one might be willing to try as an experiment an "athletic" camp where the boy would be encouraged to try himself out in various athletic activities. He may dislike the rough-and-tumble of football and soccer but find skating, swimming, or tennis enjoyable. But merely to send him to a camp where athletics is emphasized out of proportion to other interests may possibly only drive him to further discouragement. A well rounded program in which contributions and skills in various fields are valued equally with athletic prowess would probably provide a more sympathetic background.

A girl of thirteen has bad posture and "round shoulders." Will corrective exercises be harmful at this age?

Posture is dependent upon mental and emotional factors as well as upon muscle tone. Stooped shoulders are often seen to accompany feelings of insecurity, diffidence, self-consciousness in pubertal development. Any treatment which results in boredom, from special exercises to lectures or nagging, will therefore be ineffective. Stimulation along any wholesome lines of interest will be more likely to develop muscle tone than will formal exercises gone through without interest. Natural exercises, such as hiking, climbing, swimming and games, which can be entered into with zest and enjoyment, will be both physically and mentally stimulating. Corrective exercises can be harmful if they focus too much attention upon the defect to be "corrected." But where they are intelligently handled as a part of a larger program of activity, they may prove helpful.

An active healthy boy has to wear glasses. He finds that this throws him out of his normal place in games and physical encounters and greatly resents this. How can he be reconciled to this handicap?

If the glasses are absolutely necessary (and there appears to be some tendency to try other means of eye correction in children) then

he will have to make his adjustment on that basis. The parents' sympathetic understanding of his situation will help somewhat in his acceptance of it. They can help him also to develop skills in other athletic activities, such as tennis or fencing, for example, or the more individual sports of skating, or swimming, which will give him the needed satisfaction in his physical prowess. In this the cooperation of the school's physical director might be enlisted by calling his attention to the possible emotional strains attending this adjustment to glasses, so that he can try to redirect the boy's interests toward the more permissible sports. It would be helpful, too, to build up other interests and abilities so that this boy will learn to value his own contributions in fields other than physical achievement.

STUDY MATERIAL: HEALTH AND PERSONALITY

TOPICAL OUTLINE

1. Medical Science and The Parent
   - Recent improvements in child health; historical data
   - Possible dangers in enforcing the "letter of the law"
   - Relationship of mother and physician
   - The child "specialist" vs. the family physician: advantages of each
2. The School's Part in Health Education
   - Relation of child's health to his school performance
   - Methods of health education: charts, prizes, etc.; other means
   - Athletics and health
   - Cooperation of school and home in a health education program
3. Physical Hygiene and Mental Hygiene
   - Interrelationship of sound mind and sound body
   - Impossibility of making definite assertions concerning the physical basis of personality, "glands," "type," "constitution," etc.
   - Influence of the parents' personality on the health habits of the child
   - Food problems as emotional problems
   - Mental hygiene of the sick or handicapped child
   - Direct vs. indirect methods in health education
4. Problems of Adolescence
   - Physical and glandular changes of this period: growth development
   - Sources of typical irritations between parents and children
   - Attitude of the child himself toward his physical changes
   - Relation of health to social and sexual adjustments

PROBLEMS FOR DISCUSSION

1. To what extent should a group of young mothers, of fair economic and good educational status, be instructed to carry out with absolute strictness a health routine in relation to eating, sleeping, elimination, out-of-doors outings? What changes of emphasis would you make in teaching less privileged mothers?

2. Mary, age three, refuses to eat all vegetables except carrots, dislikes cereal and is indifferent to meat and potatoes. There is a scene three times a day at mealtime till mother, child and maid are all exhausted. What measures can you suggest in the handling of this problem? Is forcing food upon Mary a "health measure" or conducive to "good habits?"

3. If a child has been "delicate" during the early years of his life it often means that he has been handicapped in his social contacts by inability to mingle freely with other children on an equal footing. Discuss the disadvantages for him of this loss of social relationships from a purely health point of view as well as from the point of view of personality development. Sketch briefly the consideration which his parents should keep in mind when guiding him.

4. How are the dangers of hypochondria and fearfulness to be avoided at the same time that children are given up-to-date information concerning the relation of health to germs, exercise, food, sleep, physical examinations, etc.? Is there a relationship between mental attitude and physical health? Discuss concrete cases.

5. Would you consider it a good plan to try to stimulate adolescent girls and boys to better posture habits, more attention to food and hours of rest, etc., by a routine of regular weighing and examinations, corrective exercises, records of bedtime hours and a system of prizes for improvements? What dangers may be involved in such a procedure?

REFERENCE READING

Adjusting the School to the Child
By Carleton Washburne — *World Book.* 189 pp. 1932.

Normal Youth and Its Everyday Problems
By Douglas A. Thom — *Appleton.* 386 pp. 1932.

Our Children: A Handbook for Parents
Edited by Dorothy Canfield Fisher and Sidonie Matsner Gruenberg — *Viking.* 384 pp. 1932.

The Growing Child: His Needs and Care
By Herman N. Bundesen — *Chicago Daily News.* 144 pp. 1927.

The Wisdom of the Body
By Walter B. Cannon — *Norton.* 312 pp. 1932.

The Problem Child in School
By Mary B. Sayles and Howard W. Nudd — *Commonwealth Fund.* 285 pp. 1929.

Personality Adjustment of School Children
By Caroline B. Zachry — *Scribner's.* 306 pp. 1929.

Social Development in Young Children
By Susan Isaacs — *Harcourt, Brace.* 480 pp. 1933.

Individual Differences
Child Study Association of America (pamphlet) 1931.

Book Reviews

The Educational Frontier. Written in collaboration by William H. Kilpatrick (Editor), Boyd H. Bode, John L. Childs, H. Gordon Hullfish, John Dewey, R. B. Raup, and V. T. Thayer. The Twenty-first Yearbook of the National Society of College Teachers of Education. The Century Co. 325 pp. 1933.

Teachers may be the largest but they are only potentially the most influential professional class in America. They have consistently preferred economic security with its modest return to large income with economic uncertainty. Like all protected classes they accepted the social institutions that gave them promise of tenure, pension and salary, small but assured. But in the general economic maladjustment of our day, that security is threatened. Salaries are reduced, pay days are, in many places, payless, increased teaching loads make back breaking burdens, and educational services that seemed integral parts of the school have been ruthlessly eliminated. Small wonder that teachers question their professional status and seek sounder professional practices based on new objectives. In the little red school house and in the college, teachers of all ranks find themselves at one with the man of industry and commerce. Their asumed security gave them a false sense of aloofness which their insecurity has almost completely broken down. The teacher is today a critical student of that society which he has uncritically accepted and so zealously perpetuated through his teaching.

The Educational Frontier is a guide in the wilderness. It presents a picture of the confusion of presentday education and then leads to an understanding of the social-economic situation which confronts the educator. There is a clear recognition of the fact that the time is out of joint and an effective presentation of the social and economic implications in the corrective programs that are offered a sick society. *The Educational Frontier* espouses the democratic ideal but there is no blind worship of a fixed democratic form.

"Upon one thing we take our stand. We frankly accept the democratic tradition in its moral and human import. . . . The alternative to such a philosophy as is here projected . . . is likely to be a society planned and controlled on some other than the democratic basis. Russia and Italy both present us with patterns of planned societies. . . . But there is a difference between a society which is planned and a society which is continuously planning, namely, the difference between autocracy and democracy."

The Educational Frontier then proceeds to indicate the new conception of the profession of education and the scope and character of the new adult education. Three well planned chapters analyze the task and the administration of the school. Fundamental principles, vitally related to the socio-economic philosophy that has been laid down, are made the bases for specific and detailed tasks which the school must perform in a reconstructed and truly democratized society. *Professional Education from the Social Point of View* and *The Underlying Philosophy of Education* conclude the *Twenty-first Yearbook.*

Few publications of the last decade in the field of education are destined to have as significant an influence on teachers and parents as *The Educational Frontier.* Multiple authorship usually dooms a book to lack of organization and confusion of viewpoints and values. But Kilpatrick, Bode, Dewey, Thayer, Raup, Hullfish, and Childs, the contributors to this volume, have avoided these pitfalls with rare skill.*

PAUL KLAPPER

Heredity and Environment. By Gladys C. Schwesinger. The Macmillan Company. 484 pp. 1933.

This treatise is described as an attempt to assemble materials which are rapidly becoming available as the result of widespread scientific endeavors, to evaluate known facts in relation to the interaction of heredity and environment in its effects on human characteristics, and finally to elucidate the eugenic problems they raise. The problem that this book undertakes thus is enormous. As the author herself states, "The variability of such characteristics as vitality, body build and intelligence which prevent their exact definition, throws an almost insuperable difficulty in the way of exact genetic study."

The early part of the book is an appraisal of methods of measurement which is encyclopedic in scope, and gives a thorough and enlightening introduction to the later, more detailed expositions. The author points out that many extravagant and even bizarre

* Reprinted from "School and Home," November, 1933, with the permission of the Parent-Teacher Association of the Ethical Culture Schools, New York City.

claims have, at times, been made on the basis of studies in this field and that the interpretation of such data requires not only wide knowledge, but also a carefully balanced perspective, so that conclusions may be based on a thorough evaluation of all the inherent factors.

It is unfortunate for the general reader that the method of preparation of this book and, particularly, the style of writing, make it somewhat difficult reading. It will, however, serve as an authoritative reference work. The reader will be gratified by the clear cut warning of the author against hasty judgment in the field of eugenics and against the inadequate treatment which this subject has sometimes received.

An understanding of the limits set by heredity on the development of various characteristics and the range of modifications effected by environment is basic to many other social problems. In respect not only to personality but to intelligence as well, the material presented does not answer, very specifically, the questions propounded. But it defines the broad general limits within which specific answers must later be sought. It serves to emphasize that the problem of heredity and environment is not a general problem but is specific not only to each individual but to each one of his characteristics and to every factor of his environment. K.S.V.

Edward and Marigold. By Marjorie Thorburn. Allen and Unwin. 230 pp. 1933.

The home and garden which make up the world for Edward and Marigold have the pleasant flavor of the English countryside. But apart from the charm which this lends it, the story of their adventures might well be laid in any small town.

Parents are so accustomed to reading about "child psychology" in more or less scientific terms that they will particularly welcome this slender volume which illustrates in life-like narrative so many of the situations which they have seen discussed elsewhere in a more academic fashion. Marigold at three, and Edward at five, are very familiar; and the adventures here gathered together have been skillfully selected to illustrate some of the high points in their emotional development. We have, for instance, read much about the phantasy of childhood and about the little child's difficulty of distinguishing between truth and imagination. But here the story of the "China frog" and his sad end, in many pieces on the hearthstone, clothes the psychological principle in the simple reality of the child's own outlook. How was their mother to know that both children were equally honest in saying, first that neither of them was responsible for the crash, and, in the next breath, that both of them did it? So also when Edward finds his father and mother "making love," how is the small boy himself to know why he is seized with a desire to be his naughtiest?

Many other such crises of varying significance serve as the theme for other chapters: Edward tries to understand the meaning of death; Marigold wants to know why they do not have another baby; both children are perplexed over God and His apparent lack of regard for their most earnest prayers. Each chapter is complete in itself and gives some such picture of a child's growing contact with the world of reality and of his adjustment to it through the inner life of imagination and emotion. Though all the sketches are not of equal interest and value, the book as a whole is a sympathetic and understanding study of early childhood, done with a light touch. Z.C.F.

Recent Books

The following books have been accepted by the Bibliography Committee of the Child Study Association since October, 1933.

Adolescent Girlhood (303 pages) 1933
By Mary Chadwick John Day Co.
Busy Childhood (303 pages) 1933
By Josephine C. Foster Appleton-Century Co.
The Child and His Picture Book (102 pages) 1933
By G. LaV. and Ruth Freeman Northwestern Univ.
Children's Sleep (242 pages) 1933
By Samuel Renshaw, Vernon L. Miller and Dorothy P. Marquis Macmillan Co.
College and Life (456 pages) 1933
By M. E. Bennett McGraw-Hill Book Co.
The Educational Frontier (325 pages) 1933
Ed. by William H. Kilpatrick Century Co.
The First Two Years; Vol. III—Personality Manifestations (228 pages) 1933
By Mary M. Shirley Univ. of Minnesota
A Handbook of Psychology (966 pages) 1933
Ed. by Carl Murchison (2nd edition) Clark Univ. Press
Happy Childhood (321 pages) 1933
By John E. Anderson Appleton-Century Co.
Healthy Childhood (393 pages) 1933
By Harold C. Stuart Appleton-Century Co.
Heredity and Environment (484 pages) 1933
By Gladys C. Schwesinger Macmillan Co.
Homecoming (368 pages) 1933
By Floyd Dell Farrar and Rinehart
Life in the Making (297 pages) 1933
By Alan Guttmacher Viking Press
Mental Healers (363 pages) 1932
By Stefan Zweig Viking Press
The New Leisure Challenges the Schools (326 pages) 1933
By E. T. Lies Univ. of Chicago Press
Our Movie-Made Children (288 pages) 1933
By Henry James Forman Macmillan Co.
Parents, Children, and Money (219 pages) 1933
By Benjamin C. and Sidonie M. Gruenberg Viking Press
Psychoanalysis and Its Derivatives (249 pages) 1933
By H. Crichton Miller Henry Holt & Co.
Social Development in Young Children (480 pages). 1933
By Susan Isaacs Harcourt, Brace & Co.

Projects In Parent Education

The special committees of the Child Study Association study and compile information in many fields related to parent education; fuller reports of the projects described on this page from month to month are available upon request.

MUSIC OPPORTUNITIES FOR CHILDREN

THE Music Committee in one day may receive a letter from Missouri asking for a list of books about music for a five-year-old child, a telephone call from Brooklyn asking for names of nearby music schools, a visit from a mother who wants a simple outline of the history of music, and a letter from Canada requesting lists of phonograph records for a preschool child. The Committee may also be asked what it thinks of the music department in X— school, how young a child may profitably be taken to "children's concerts," or what to do about a tone-deaf child.

It is obvious that a wholly non-professional committee could not meet such demands for really technical information. A solution has been found by dividing the work between a non-professional committee, which gathers books to review, visits schools for general impressions, keeps files and writes letters, and a committee of professional advisors, who generously give their time to help parents who value music as a vital part of education.

During the past two years the Music Committee has sponsored study groups for parents interested in the musical background of the home and in learning what the role of a school should be in the musical education of the child. The first group was under the leadership of Emanuel Elston, director of the Conservatory for Progressive Music Education and a member of the Committee. In last year's group each lecture was given by a different professional member of the Committee. This year the Committee is sponsoring a series of six lectures by leaders in various fields of music education, with Mr. Elston as chairman. The series will cover the child's opportunities for musical expression in singing, dancing and the use of instruments, the measurement of musical capacity, and the place of music in family life. (A detailed announcement, giving the topic and speaker for each meeting, will be found on page 154.)

The work of the Committee is carried out by individual members who report from time to time at meetings. All books about music as well as collections of songs are received from the publishers and reviewed by at least three members. Those selected are listed under the proper classification. New phonograph records for children, now unfortunately few, are heard and reviewed. Members of the Committee visit and report on music schools, concerts for children and various studios of music and dancing. With the cooperation of several private schools the Committee has sent parent representatives to meetings in these schools to report on their music activities, and hopes that this will be a permanent link between the Committee and the schools.

An important contribution of the Committee is the pamphlet *Music and the Child* which contains lists of books about music for parents and children, lists of phonograph records and of piano and mechanical piano music. All the lists are classified as to age and interest. The pamphlet also contains many helpful articles on the various phases of music education.*

The inclusion of a list of music books in the annual list of children's books published by the Children's Book Committee of the Association and an exhibit at Headquarters of recent books, music and phonograph records keep the interested public in touch with the work of the Music Committee. The continued increase in the number of questions received and in the enrollment in the music study groups convinces the Committee that it is filling a real need.

HELEN RAU,
Chairman, Music Committee.

* Music and the Child. Child Study Association of America. 1930. 87 pp. $.50.

In the Magazines

A Curriculum for Children at Home. By James S. Tippett. Journal of Educational Sociology, January 1934.

In the early years the child's educational needs center in the world about him rather than in purely academic subjects. The educational process, at home or in school, should never allow him to lose touch with life but, through his play interests, should lead him into richer and broader activities.

Common Faults and What They Mean. By Mary S. Fisher. The Parents' Magazine, January 1934.

An analysis of the usual causes of such faults as dawdling and temper tantrums with some suggestions for correcting them.

Education for Healthy Family Relationships. By Esther Allen Gaw. Journal of the American Association of University Women, January 1934.

The Dean of Women at Ohio State University discusses some of the principal difficulties in sex education and outlines what she has found to be the most successful method of instruction in the mechanism and psychology of sex and in "the personal application of sociology and economics to the problems of the family."

Educators Groping for the Stars. By Nathaniel Peffer. Harper's Magazine, January 1934.

The aims of two current schools of thought in educational philosophy—that which wishes to build a new social order by means of the educational process and that which wishes to use the process to develop the individual's personality—are criticised as "grandiloquent fantasies" which have left education "rudderless." The author feels that it is time for educators slowly to formulate a sound philosophy from accumulating experience.

Freedom and Discipline in Education—Part I. By Margaret Lowenfeld. The New Era, January 1934.

A discussion of the fundamental concepts underlying the term, "freedom," in an attempt to answer the question whether the child should undergo a predetermined course of instruction or discover knowledge for himself. Unless a child is driven by a desire to possess information it cannot become real or an integral part of his experience.

Respect Your Children's Differences. By Augusta Alpert. Delineator, January 1934.

The child's personality, rather than the standard achievements for his age, should always be considered in dealing with his problems at school, his social relationships, hobbies and vocational guidance.

Should Parents Help With Homework? By Raleigh Schorling. The Parents' Magazine, January 1934.

When parents help with homework, the result is usually confusion because of the differences in methods of teaching. Children are helped more effectively when parents build up in them desirable attitudes toward school and when they endeavor to understand and cooperate with the aims of the school.

Vocational Try-outs for College Students. By Edith G. Stedman and Mary E. Manson. Occupations, January 1934.

An account of the Radcliffe system of vocational guidance which places college students and alumnae in apprentice positions to test their fitness and liking for the job.

Why is Arithmetic a Bugbear? By Carleton Washburne. The New Era, January 1934.

Arithmetic, as it is commonly taught, is too far removed from the child's own experience to sustain his interest. He should not be required to undertake this subject until he exhibits a definite need for it, is mentally mature enough for the specific project and is adequately prepared in the basic concepts and prerequisite skills. In order to apply himself properly the child must associate reality with the mathematical symbol.

For parents and study groups
BIBLIOGRAPHY ON PARENT EDUCATION
1932-1933
Selected from current magazines and pamphlets by Berthe Goodkind
A comprehensive list of recent material arranged by topics—child training, family relationships, psychology, education, sociology, religious education and economics as affecting family life.
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CHILD STUDY ASSOCIATION, 221 W. 57 St., New York, N. Y.

News and Notes

Measuring the Nutritional Status of Children

THE American Child Health Association has for its field the health of the whole child from infancy to maturity. As need and opportunity arise, however, the Association concentrates part of its efforts on particular problems and their solution. For a number of years the Research Service of the Association, headed by George T. Palmer and Raymond Franzen, has been studying the question of the nutritional status in children, with a view to discovering some simple, dependable and practicable method of measuring this quality.

The result is the A. C. H. Index of nutritional status in children from seven to twelve inclusive, which the American Child Health Association proposes as an aid in sorting out children who should be seen by a physician. It is not by any means a substitute for a physician's examination.

The A. C. H. Index is based on three simple measurements—arm girth, chest depth and hip width. These measurements, subjected to two simple additions, one subtraction and reference to a brief table, serve to identify children with small amounts of musculature and fatty tissue in relation to body build. Marked discrepancy between the amount of soft tissue and skeletal build is the basis for selecting cases as lowest in nutritional status.

Experts have for some time been seeking a substitute for the older methods of judging nutritional status, such as the height-weight-age tables and the Pelidisi method, which have proved unsatisfactory in that they took too little account of individual differences in body build. The weight-for-height tables, for instance, do not pick out those lean children who are nevertheless heavy because of broad and deep skeletal frames. And they err in picking out those lightweight children who are light because of narrow, shallow frames but who, nevertheless, have a good, thick padding of soft tissue.

The three A. C. H. measurements, while not giving a perfect picture, provide a much more reliable guide. Where the height-weight-age tables select only one-fifth of the extremely undernourished children in a group, the A. C. H. Index, used according to instructions, selects three-fifths. Children selected by this method should, of course, be sent to a physician for further examination and treatment.

The new method is particularly useful in comparing the nutritional status of different groups of children, for it is less subject than some of the older methods to the personal equation. That is to say, the results of the A. C. H. Index mean the same, no matter who is making the measurements.

Details of the A. C. H. Index, as well as descriptions and prices of the simple equipment necessary for making the measurements, may be obtained from the American Child Health Association, 450 Seventh Avenue, New York, N. Y.

Family Functions Today

So much interest has been expressed in the subject of the Forty-fifth Anniversary Conference of the Child Study Association—"The Family and Its Functions Today"—that it has been decided to base the April issue of CHILD STUDY on the proceedings of the Conference. Held on January 19 and 20 at the Hotel Pennsylvania, the meetings included three day-time sessions and a dinner on various phases of sociology, economics, education and ethical training, as they affect parents and children in a changing society.

Summer Round-Up

The Summer Round-Up of the Children is the major health project of the National Congress of Parents and Teachers. The purpose of this yearly campaign is to send to the entering grade of school a class of children as free as possible from remedial defects. The ultimate goal is to educate parents to the child's need for early periodic examination by the family physician and dentist in order to insure correction of hampering defects which might not otherwise be discovered until the child enters school. Arrangements for examinations by a doctor and a nurse are made in the spring by local committees of parents in cooperation with health agencies and school officials. Parents of preschool children are notified and requested to come with their children to receive the benefit of the medical advice offered. If the child is found to be suffering from any of the common defects of childhood his parents are urged to take immediate steps to correct them. Many parents need

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Feb. 20th	Significance of Rythmn and Dancing Doris S. Champlin
Feb. 27th	Measuring Musical Capacities—Encouraging Musical Talent Hazel M. Stanton
Mar. 6th	Use of Simple Instruments Eva Wachtell
Mar. 13th	Family Music Making Augustus Zanzig
Mar. 20th	The Piano and the Violin—Summary of the Series Emanuel Elston

The program is arranged throughout so that those who care to may participate actively in singing, dancing and the use of instruments.

Fees: Members	$3.00
Non-members	5.00
Single Meeting	1.00

221 West 57 Street, New York City

only to be reminded that their child needs frequent checkups to make sure that he is in good condition. Others are unable to pay for medical attention. In such cases, the parent teacher association makes an effort to assist, although it does not maintain a free clinic. Last fall almost a hundred thousand children had the benefit of these examinations and a large percentage of those examined had medical care during the summer. Many thousands were found to be suffering from easily remedied handicaps, clearly showing the need for a campaign of this sort.

Trends in School Health Work

One of the outstanding trends in those schools most active in health work and physical education is the tendency to unite all physical activities, including health work, physical education, intramural athletics and interscholastic athletics, according to a report recently published by the United States Office of Education as part of its National Survey of Secondary Education. Another notable finding is that junior high schools are leaders in the scope and effectiveness of the work done in both health and physical education. Of the shortcomings reported in this field, the lack of effective programs of correction in physical education and of proper follow-up was mentioned, as well as the failure to measure the effectiveness of the general program, the methods of instruction and the materials used. However, the report commented, this branch of education although new, has made larger gains than some traditional subjects. A study of the hindrances to the health work of the schools indicates four troublesome problems: lack of cooperation by parents, lack of facilities at school, ignorance and superstition of parents and poor home conditions. Most schools, however, mentioned the cooperation and encouragement of parents and of city or community agents, healthful conditions in the community and good home conditions as important aids to health work. Yet only one-third of the schools, the report shows, are satisfied with their present health program. Desirable changes suggested include: added facilities at home, full-time or part-time nurse or physician, corrective work, definite courses in health and sanitation, more teachers and more follow-up work in the home.

Public Health and the Child

Because of the increasing life span of the average adult, children are becoming proportionally rarer. Dr. Haven Emerson, Professor of Public Health Practice, College of Physicians and Surgeons, in a talk before the Leaders' Group of the Child Study

(*Continued on page* 157)

CHILD STUDY ASSOCIATION OF AMERICA

UNIT GROUPS

Beginning in February, 1934

Unit group study offers parents an opportunity for intensive consideration of important aspects of child development and management.

DISCIPLINE— ITS PURPOSE AND PRACTICE

Mondays at 11 a. m.
February 19, 26, March 5, 12

LEADERS: SIDONIE M. GRUENBERG
MARION M. MILLER

What are the values of discipline in a rapidly changing world?

How are obedience, punishments and rewards related to the concept of discipline in a larger sense?

What factors—in the child's personality and in his relationships with others—promote the development of wholesome discipline?

What factors hamper the development of wholesome discipline?

How may the growing child be helped to assume self-direction in such matters as daily routine, handling money, making friends and so on?

Records of illustrative situations related to discipline in early and later childhood will be presented for discussion.

COMMON PROBLEMS OF EARLY CHILDHOOD

Mondays at 2:30 p. m.
February 19, 26, March 5, 12

LEADERS: MARION M. MILLER
ANNA W. M. WOLF

What is within the range of normal development in regard to: growth, behavior, emotional maturity, personality, skills?

What deviations may be considered as within the limits of normality: thumbsucking, bedwetting, tantrums, excitability, nervousness, anxiety?

What type or dègree of deviation constitutes a problem?

How can the small child be helped to establish wholesome relations with other children, with adults?

Records of illustrative situations will be discussed.

RELIGION AND THE YOUNG CHILD

Tuesdays at 2:30 p. m.
February 13, 27, March 6
Wednesday, February 21 at 2:30 p. m.

LEADER: CÉCILE PILPEL
SPEAKERS: LOUIS I. NEWMAN, ADELAIDE T. CASE

How do the child's concepts of God originate?

How shall we deal with the unknowable?

What shall we teach the child about worship, prayer?

What is the parent's function in regard to the child's beliefs?

Can we leave the child free to select his own religion?

How may the child be helped to meet inevitable tragedies, such as death, suffering, destitution, separation, evil, calamities of nature?

When and how can charity and almsgiving have meaning for the child?

What is the specific function of the Sunday school?

THE PARENT'S ROLE IN CHARACTER TRAINING

Wednesdays at 11 a. m.
February 14, 21, 28, March 7

LEADERS: CÉCILE PILPEL
SIDONIE M. GRUENBERG

Is character developed, trained, learned, inherited?

How may the child be helped to develop desirable traits, such as honesty, loyalty, considerateness, cooperation, well-balanced attitudes toward money, work and other responsibilities?

What special aspects of character training are inherent in group participation, companionship, boy and girl relationships, sports and games, citizenship, racial contacts?

What part does the family play in character training?

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Reference Books for Young People

Most children are full of " 'satiable curiosity." Living in a world filled with "many amazements" they early develop a zest for information concerning the "why" of things. It is important to keep alive this questing spirit, this research attitude toward life. In this we can be helpful in so far as we can make the quest rewarding and fruitful and the goal not too difficult of attainment.

For this purpose an accessible source of information is almost indispensable. We cannot answer all our children's questions, but we can often help them to find the answers. Thus from the time the child has surmounted the obstacles of the first and second reader a simple encyclopedia becomes an invaluable asset in the home.

In the selection of a reference work to meet this particular need and age interest certain specific criteria must be considered. Of primary importance, of course, is the character and presentation of content. In an encyclopedia, information must be accurate and authoritative. It must be presented in a straightforward manner, without sentimentality or undue bias. Its style must be clear, concise, honest, readable, and suitable for the age to which it is addressed. The child earnestly seeking information does not want to be handed factual matter in a "sugar coated" story but wants, rather, to come straight to the point. Nor does he need to find in the reference book a mass of unrelated information. Thus the encyclopedia which glorifies information—which sets out to lure him toward storing up facts for their own sake, without reference to his use for these facts—has done him no real service.

The indexing of an encyclopedia is a vital factor in its usefulness. Each volume should clearly indicate on its binding, either the letter or subject matter, and each volume should be itself so indexed that the data within, as well as cross-references to other volumes, may be easily located, without too much of that discouraging direction to "see" elsewhere.

For the young reader format is an important consideration: paper of such quality that the type will not show through; print in well spaced lines of type large enough to facilitate reading; a volume not too heavy or too bulky to be handled with ease. The illustrations should complement and explain, not distract from, the text; they must be pertinent and interesting, preferably photographic or diagrammatic rather than pretty or decorative.

Of the current encyclopedias especially prepared for young people there are several sets, which, in the main, meet these criteria. *Compton's Pictured Encyclopedia,* in fifteen volumes, is especially suited for children through junior high school age. Its material is authoritative, well chosen, well written and illustrated. The indexing and arrangement are excellent: the various subjects are grouped in alphabetical units clearly lettered on the outside of each book, and each volume has its own index (also cross-indexed to others.) Thus the task of finding data is reduced to the very simplest terms, and the whole encourages the child to come again.

The World Book Encyclopedia, in nineteen volumes, is suitable in its style for somewhat older readers. Here the treatment of each topic is supplemented with a list of related subjects and a page of outline and questions to clarify the information. A bibliography for supplementary reading is given at the end of the last volume and the index for the whole is contained in a separate index volume. The books are well illustrated and the style clear.

Another set, which falls somewhere between these two in the age to which it is addressed is *Weedon's Modern Encyclopedia,* in eight volumes. Here the subject matter is well selected and authoritative, though the style is uneven in quality. It falls, perhaps, more than the others, into the use of stories and "pretty pictures" to dress up information. But it is less expensive and contains some excellent material. Its single index volume refers to the pages, which are clearly indicated on the outside of each volume, making for facility in its use.

The New Champlin Cyclopedia for Young Folks is a set of six classified reference volumes, each of which deals with a large general category such as "Plants and Animals," "Literature, Art and Mythology," "Persons," "Places and Events." The information is briefly given, and style and illustration are somewhat in the manner of a dictionary. The format is good. Unlike other encyclopedic works the volumes can be purchased separately.

No set of encyclopedia is a complete source of information except, perhaps, the Britannica. This best known work is, of course, a scholarly, detailed and inclusive compendium of information for adults seeking very full reference data, and only the young person with mature interests can use it with ease and pleasure.

We do well to provide our young people with encyclopedic sources that are satisfying but not overwhelming, if we would help them learn not only the value of books of reference, but the techniques of using them with facility and profit.

HELEN H. SCHOLLE

News and Notes

(*Continued from page* 154)

Association on January 4th, pointed out that this may constitute a serious hazard to children, who need companionship of their own kind if they are to grow into "healthy performers." Another factor which works against the normal development of children is overemphasis both on the "scientific approach," which surrounds the child with a "ponderous mass of information" requiring him to be "his own series of controlled experiments," and also on physical equipment in the home. An intelligent mother can make a home suitable for children out of poor housing, while a stupid mother can do little even with the best, he said, drawing a distinction in this connection, between tidiness, as a purely esthetic quality, and sanitation, as a health essential.

Preventive medicine which is the means to a longer, richer, more adaptable life, places its emphasis on the individual rather than his environment, according to Dr. Emerson. Its aim is to keep "well persons well;" a "going around rather than through sickness," with the family doctor the biological adviser in health as well as in emergencies. The services of preventive medicine can be fully expanded, Dr. Emerson declared, only if there is public demand for them.

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THE PROGRESSIVE EDUCATION ASSOCIATION
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Physical Basis of Personality

(*Continued from page* 134)

other substances in the blood stream and similar problems. From studying glandular disturbances, attention is necessarily directed to body form, a matter which has of recent years been subjected to careful scrutiny by Kretschmer,[9] Draper,[4] Wertham[14] and others. Observers have found that certain types of body form tend in a general way to correlate with certain types of mental disturbances, and perhaps with certain types of personality. Such correlations lead to speculation on endocrine influences, on congenital growth factors, and on the relations between these and emotional and psychic development.

At this point we might well stop in some amazement to scan this overgrowing list of possible fields of research, some already partially explored, some just being projected, without as yet finding in the entire list one mention of the nervous system itself. Are there no variable factors in this central dominating organ? Clearly, there must be.

In a recent lecture Freeman[5] mentions many possible leads: suggestions of differences in the utilization of oxygen, in the state of molecular aggregation or dispersion, in the amount of water and the way it is related to the tissue substance and so on. Or if we turn to the possible variations in sensory equipment we find possible hints of important variations in color perceptiveness, in sensitivity to tones, in skin and muscle sensitivity, or in the precision of the signals which run from the tendons and muscles and joints to the central nervous system to guide coordinated movements. Similarly on the outgoing side of the nervous system, one seeks for possible variations. Orton[13] has demonstrated significant differences in this aspect of the organization of the personality, correlating with the extent to which one half the brain dominates and maintains a leading role over the other half. Just how far this phenomenon of hemi-cerebral dominance may correlate with psychoneurotic types is as yet a purely speculative matter.

In summary one might group into three general categories the studies which have been made on physical constitutional types. First are all the morphological studies on body form. In these studies efforts are made to determine the relationship between the volumes of the body cavities and the volumes of the extremities, the distribution of hair and fat, the shape of special parts of the body such as the hands, the jaws, the fingers, or the ears, and to find between these characteristics and psychological characteristics certain correlations. These are very important in-

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vestigations; but nowhere is greater caution necessary in drawing conclusions.

The next group might be called the study of physiological constitution, including the important search for variations in the fundamental basic physiological constants. Here we find such studies of the heart and blood vessels as have been mentioned above, efforts to find "gastro-intestinal types," or types of special vaso-motor response (that is, the response of the small blood vessels which are under the control of the special parts of the central nervous system.) Other groups have been distinguished which have some peculiarity, in their chemical responses, or in the influence of subtle glandular differences and the like. Sometimes two or three of these special studies are brought together in efforts to find a more complex kind of physiological unit. For instance, there are groups of people who are highly sensitive to certain foreign substances, the so-called "allergic diathesis," with a tendency to develop hay-fever, asthma, special kinds of skin manifestations, blood vessel spasms and so on. There is a growing evidence that this group bears a certain relationship, often rather striking, to hysteria and possibly to anxiety states. This is a promising lead, and one which undoubtedly will bring forth a great deal in the future. On the other hand, some of these leads have already led into blind alleys, as, for instance, the study of gastro-intestinal physiology with its absurd and dangerous exploitation by those whose phantasies have led them to feel that a dangerous toxic poison must be absorbed from the bowels, and who formulated therefore the theory of "auto-intoxication" from the intestines, a will-o'-the-wisp which has led many an investigator on a futile expedition "up the gastro-intestinal canal with gun and camera."

A third group of special studies deals with the responses of the body to special chemicals or drugs, such as oxygen and carbon dioxide, sedatives, stimulants and intoxicants, and with the responses to toxins and fever, the special proneness of certain people to delirious states, and similar reactions. Such observations as these have led to the efforts to formulate "pharmacological" types.

With regard to all these efforts it is only important again to keep in mind that study must proceed along two parallel lines: the extremely careful and conscientious isolation of psychological groups, and the equally careful and exact isolation of the physiological or morphological or pharmacological groups. When a correlation between these two is firmly established—when one is sure that the organic workers have not grabbed hastily at the first tentative psychological grouping which has presented itself, and that the psychological investigators have not seized prematurely on some half-baked and tentative physiological study—then one can safely accept the correlation as true.

Even then, however, one has taken only the first step along the path, because it still remains unclear whether the organic processes have produced the psychological disturbance or whether the psychological disturbance has produced the organic peculiarity. And this is a problem which can be answered only by active experimental investigation. No amount of statistical correlation can alone settle the question of causation. All of these many and varied lines of investigation will take years to explore. In some cases we are not yet equipped with methods sufficiently accurate to warrant even making the attempt. Others have already been launched.

The study of physical and organic constitutions on the one hand, and the psychological study of personality types on the other, are proceeding along two slowly converging roads. The only dangers are that blind prejudice which leads either group of workers to overlook the importance of the progress which the other group is making and the equally blind enthusiasm which prematurely tries to achieve a synthesis which is not yet possible.

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The Editors' Page

IN ORDER to think intelligently about summer time activities for children we have first to consider how the child's whole waking-time life inherently brings unending education. Everything consciously done, possibly even what is not consciously done, carries its educative effect. Thereafter the child sees, where before he saw not. He feels differently, and he acts differently. For good or ill such effects are always in process. Nothing is clearer or more certain, even though some older ones who would speak for recreation seem not to know it.

MOREOVER, in each such living act every different part and aspect of the child is involved. His whole organism cooperates in each thing that he does: he not only moves physically, he also thinks, and he feels; and all these fit cooperatively together to form one act. This means that educative effects are all the while taking place in every part and aspect of the child's character and being, and that all are connected together. When now he sees differently, he also feels differently and his feeling fits his sight (or better his insight.) He will also act differently and his act again fits the way he sees and feels. His whole being learns together.

SCHOOL and home alike often resist adaptation to the child's specific needs. Summer is more amenable to planning. Knowing the child, we can plan the summer's program accordingly. A good camp has proved a god-send to many a child, spoiled in home or starved in school. Separation may at times help both parent and child. Wisdom lies in planning or choosing according to the child's needs.

ONE caution, however, we must never forget. Happiness is the natural accompaniment of healthy living. Unhappiness is the sign of failure. Possibly the greatest advantage of summer is that then our consciences allow us to take our eyes off the fixed, but less important, things, and fasten them for the time more steadily upon the most important thing of all—cooperative living of a kind that makes us all happy together.

Wm. H. Kilpatrick

CHILD STUDY

A JOURNAL OF PARENT EDUCATION

VOL. XI MARCH, 1934 No. 6

FIFTEEN CENTS THE COPY ONE DOLLAR THE YEAR

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CHILD STUDY entered as second class matter March 8, 1926, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
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Eight months, October through May. Fifteen cents per copy; one dollar a year. Add twenty-five cents for all foreign subscriptions.